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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/521,406	RAJAHALME, JARNO	
	Examiner	Art Unit	
	CANDAL ELPENORD	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *April 30, 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *18 January 2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed April 30, 2008 have been fully considered but they are not persuasive.

2. Regarding claims 1-2 and 11-12, the Applicants alleged that the combination of Leung '705 and Ramjee '462 fails to disclose "at least two consecutively arranged mobility agents associated to the destination".

3. The Applicants further alleged that the combination of Leung '705 and Ramjee '462 alleged that the combination does not disclose "rerouting the route from one of the at least one first mobility agent agents directly to one of the at least two consecutively arranged second mobility agents such that at least one intermediate mobility agent in the route is bypassed in the resulting rerouted route".

In response to applicant's argument (first), the Examiner respectfully disagrees, because the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, The examiner asserts that combination of Leung '705 and Ramjee '462 when considered as a whole clearly teaches the "at least two consecutively arranged mobility agents associated to the destination" as referenced in fig. 2A, see Foreign Agent 10, and Router R1 (HA V, HA 1, HA 2, HA 3 connection to

the mobile nodes (fig. 2A, Foreign Agent 10, recited in col. 8, lines 34-43, fig. 2A, Router R1 connecting HA V, HA 1, Ha , HA 3, col.7, lines 7-30). Additionally, there is association between the interconnected mobile devices with respect to registration (col. 4, lines 58 to col. 5, lines 3).

In particular, Ramjee ‘462 discloses bypassing the mobile device’s home network with respect to route optimization as suggested in col. 4, lines 1-10.

Therefore, bypassing the mobile device home network is treated as rerouting the route by the examiner since the data packets are not being transmitted to the mobile device home network which implies that packets are being transmitted to directly to mobile device via a different route.

In response to the Applicants' argument with respect to "rerouting the route from one of the at least one first mobility agent agents directly to one of the at least two consecutively arranged second mobility agents such that at least one intermediate mobility agent in the route is bypassed in the resulting rerouted route" in relation to Karagiannis '395; the Examiner did cite Karagiannis '395 to be disclosing "rerouting the route from one of the at least one first mobility agent agents directly to one of the at least two consecutively arranged second mobility agents such that at least one intermediate mobility agent in the route is bypassed in the resulting rerouted route". Therefore, that argument is moot.

4. The Applicant alleged that Johansson '752 does not disclose “at least two consecutively arranged mobility agents associated to the destination”, “rerouting the

route from one of the at least one first mobility agent agents directly to one of the at least two consecutively arranged second mobility agents such that at least one intermediate mobility agent in the route is bypassed in the resulting rerouted route".

In response to the Applicants', the Examiner respectfully disagrees because Johansson '752 doe in fact teach route optimization where the mobile node's home network as suggested in paragraphs 0020, 0066, 0068.

In response to the Applicants' argument that Johansson '752 does not disclose "at least two consecutively arranged mobility agents associated to the destination", the Examiner respectfully disagrees because Johansson '752 does in fact disclose "at least two consecutively arranged mobility agents associated to the destination" as referenced in fig. 3a to fig. 3b which clearly association to a destination namely the mobile node 3, paragraphs 0074, 0077.

Additionally, the Applicants' argument is not valid because when a mobile device ventures outside its home network to foreign network (visited network) that mobile device will register with foreign agent (access router), then a care-of-address will be assigned to the mobile device, and the mobile device will forward that information to its home network. Thus, there is mobility associated to a destination through the registration procedure as described above.

In view of the above reasons, the rejections are maintained as follow.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-2 and 11-12** are rejected under 35 U.S.C. 102 (e) as being anticipated by Johansson et al (US 2002/0080752 A1)

Regarding claim 1, Johansson et al. discloses a routing method for routing data packets ("optimization routing of datagrams, recited in paragraph 0068, lines 1-8 and "traffic flow", recited in paragraph 0074, lines 1-13) from a source terminal (fig. 3a, Mobile Node 3,recited in paragraph 0035, lines 1-7) to a destination terminal (fig. 3a, Corresponding Node 4, recited in paragraph 0035, lines 1-7) via at least one communication network (fig. 3a, Home Network 9 and Visited Subnetwork 8, recited in paragraph 0035, lines 3-7 and paragraph 0036, lines 1-8)), the at least one communication network (fig. 3a, Home Network 9/ Visited Subnetwork 8, recited in paragraph 0035, lines 3-7 and paragraph 0036, lines 1-8) comprising at least one mobility agent entity (fig. 3a, Home agent 1, Router 5a, recited in paragraph 0067, lines 1-8, and paragraph 0036, lines 1-11) for each of the terminals (fig. 3a, Mobile nodes and Corresponding Nodes, recited in paragraphs 0068 and 0035), the method comprising the steps of: establishing a route ("route advertisement using the open

shortest path", recited in paragraph 0077, lines 1-17) from the source (fig. 3a –3b, Mobile Node 3,recited in paragraph 0035, lines 1-7) via at least one first mobility agent ("router 5a for traffic sent from/to the corresponding nodes", recited in paragraph 0036, lines 1-6) associated to the source (fig. 3a –3b, Mobile Node 3,recited in paragraph 0035, lines 1-7), at least two consecutively arranged second mobility agents (fig. 3a and 3b, Agents 1 and 2b, Mobile IP Tunnel 30a, recited in paragraph 0074, lines 1-13 and paragraph 0077, lines 1-17) associated to the destination (fig. 3a, Corresponding Node 4, recited in paragraph 0035, lines 1-7) deciding that the route is to be optimized ("route optimization and datagrams can be routed between corresponding nodes and Home Agent" recited in paragraph 0068, lines 1-8 and "mobile node entering the visited network", recited in paragraph 0107, lines 1-15), and upon the decision ("routing traffic directly", recited in paragraph 0077, lines 1-3), rerouting the route from one of the at least one first mobility agents ("setting direct static direct route between mobile node and corresponding node", recited in paragraph 0075, lines 1-9) directly to one of the at least two consecutively arranged second mobility agents (fig. 3a and 3b, Agents 1 and 2b, Mobile IP Tunnel 30a, recited in paragraph 0074, lines 1-13 and paragraph 0077, lines 1-17) such that at least one intermediate mobility agent ("without going to the Home agent", recited in paragraph 068, lines 1-8-the bypassed home agent is the intermediate mobility agent) in the route is bypassed in the resulting rerouted route ("no awareness of the mobile IP when forwarding traffic between Mobile node and Corresponding Node", recited in paragraph 0066, lines 1-5 and "bypassing the mobile

node's home agent", recited in paragraph 0020, lines 1-8 and paragraph 0021-the route to the home agent/network is therefore bypassed).

Regarding claim 2, Johansson et al. discloses a method ("optimization routing of datagrams, recited in paragraph 0068, lines 1-8 and "traffic flow", recited in paragraph 0074, lines 1-13), wherein the decision ("mobile node entering the visited network", recited in paragraph 0107, lines 1-15-the decision is made after registering the care-of-address with home agent network), is taken at one of the at least two second mobility agents (fig. 3a and 3b, Agents 1 and 2b, Mobile IP Tunnel 30a, recited in paragraph 0074, lines 1-13 and paragraph 0077, lines 1-17) associated to the destination (fig. 3a, Corresponding Node 4, recited in paragraph 0035, lines 1-7).

Regarding claims 11-12, please see the Examiner comments with respect to claims 1-12 as discussed above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US 6,915,325 B1).

Regarding claim 21, Lee '325 discloses a routing system (fig. 1, Foreign Domain and Home Domain Network, col. 3, lines 16-30) for routing data packets from a source terminal (fig. 1, Corresponding Host 50) to a destination terminal (fig. 1, Mobile Node 10) via at least one communication network (fig. 1, Foreign domain network 45), said at least one communication network (fig. 1, Foreign domain network 45) comprising at least one mobility agent entity (fig. 1, Border Router 70) for each of said terminals (fig. 1 to fig. 3, Corresponding Host 50, and Mobile Node 10, col. 3, lines 16-47), the system (fig. 1, Foreign Domain and Home Domain Network, col. 3, lines 16-30) comprising: route establishment means for establishing a route (see, "data messages from the corresponding host to the mobile node redirected to the appropriate care of address", col. 5, lines 24-50, see, "informing the corresponding host the care of address mobile node", col. 3, lines 54-62) from the source (fig. 1, Corresponding Host 50), via at least one first mobility agent (fig. 1, Corresponding Agent 60) associated to said source (fig. 1, Corresponding Host 50) and at least two consecutively arranged second mobility

agents associated to said destination (fig. 1 to fig. 3, see Border Router 70 and Foreign Agent 40 (Router), col. 3, lines 16-30), to said destination (fig. 1 to fig. 3, Mobile Node 10), decision means for deciding that said route is to be optimized (see, tunnel optimization with respect to informing the corresponding host to the care of address of the mobile node, col. 3, lines 54-62) and, rerouting means for performing, in response to said decision (Noted: bypass/avoiding the home agent after establishing a tunnel, col. 4, lines 56-65), a rerouting of said route from one of said at least one first mobility agents directly to one of the at least two consecutively arranged second mobility agents (fig. 1 to fig. 3, see Border Router 70 and Foreign Agent 40 (Router) such that at least one intermediate mobility agent (fig. 1, Home agent 30, col. 3, lines 16-32) in said route is bypassed in the resulting rerouted route (see, “tunneling of messages to the mobile node without passing through the home agent", col. 2, lines 13-23, “forming a tunnel to avoid the home agent", col. 3, lines 54-62).

Therefore, one skilled in the art would be motivated to bypass the intermediate mobility agent (home agent) in order to reduce packet transmission delay and reduction of network resources as suggested in col. 4, lines 66 to col. 4, lines 9 for motivation.

10. **Claims 1-2 and 11-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung et al (US 6,195,705 B1). in view of Ramjee et al (US 6,842,246 B1).

Regarding claim 1, Leung et al. discloses a routing method (“routing of data packets”, recited in col. 6-7, lines 65-67 and lines 1-6 and “router”, recited in col. 5, lines

34-47) for routing data packets from a source terminal (fig. 2A, Mobile nodes 6 and 27, recited in col.) to a destination terminal (fig. 2A, Corresponding Node 18, recited) via at least one communication network (fig. 2A, Network Segment 12, recited in col. 6, lines 48-54) the at least one communication network (fig. 2A, Network Segment 12, recited in col. 6, lines 48-54) comprising at least one mobility agent entity (fig. 2A, Routers, HA V 25, HA 1 8, HA 2 21, HA 3 23, recited in col. 7, lines 1-15) for each of the terminals (fig. 2A, source and destination terminals, recited in col. 6, lines 48-56), the method ("routing of data packets", recited in col. 6-7, lines 65-67 and lines 1-6 and "router", recited in col. 5, lines 34-47) comprising the steps of: establishing a route ("receiving a registration request from the foreign agent and authentication", recited in col. 10, lines 26-56 and "care-of-address of mobile node", recited in col. 11, lines 7-23) from the source (fig. 2A, Mobile Node 6, 27, recited in col.) via at least one first mobility agent (fig. 2A, HA 3 23, recited in col. 7, lines 50-59) associated to the source (fig. 2A, Mobile Node 6,27, recited in col. 6, lines 48-56) at least two consecutively arranged second mobility agents (fig. 2A, Foreign Agent 10, recited in col. 8, lines 34-43, fig. 2A, Router R1 connecting HA V, HA 1, Ha , HA 3, col.7, lines 7-30) associated to the destination (fig. 2A, Corresponding Node 18), to the destination (fig. 2A, Packet going from MNs to destination "corresponding Node"), regarding claim 2, a method ("routing of data packets", recited in col. 6-7, lines 65-67 and lines 1-6 and "router", recited in col. 5, lines 34-47), wherein the decision ("receiving a registration request from the foreign agent and authentication", recited in col. 10, lines 26-56 and "care-of-address of mobile node", recited in col. 11, lines 7-23-decision regarding routing or tunneling is taken) is taken at

one of the at least two second mobility agents (fig. 2A, Foreign Agent 10, recited in col. 8, lines 34-43) associated to the destination (fig. 2A, Corresponding Node 18 and fig. 2B).

Leung et al. discloses all the subject matter of the claimed invention with the exception of being silent in regard to the at least one intermediate mobility agent (HA2; HA 1) in the route is bypassed in the resulting rerouted route. However, Ramjee et al in a similar field of endeavor discloses the method ("registration when a mobile device moves to different areas covered by VLR, recited in col. 6, lines 5-25), deciding that the route is to be optimized ("routing directly to the root domain router and established path to mobile device", recited in col. 4, lines 27-44), and upon the decision ("routing away from home", recited in col. 4, lines 1-6) rerouting the route ("route optimization in which the mobile home agent is bypassed", recited in col. 4, lines 1-13) from one of the at least one first mobility agents (fig. 1, Access Router 114, recited in col. 3, lines 23-38) directly to one of the at least two consecutively arranged second mobility agents (fig. 2, Root Domain router R6 or Foreign Domain, recited in col. 5, lines 5-16) such that at least one intermediate mobility agent (fig. 2 Domain 1, Root Router HA 210.) in the route is bypassed in the resulting rerouted route ("route optimization in which the mobile home agent is bypassed", recited in col. 4, lines 1-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the features of Leung et al. by using features as taught by Leung in order to minimized handoff notifications and routing efficiency (See col. 4, lines 45-59 for motivation).

Regarding Claims 11-12, please see the Examiner comments with respect to claim 1-2 as discussed above.

11. **Claims 3-8 and 13-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson et al (US 2002/0080752 A1) in view of Forslow et al (US 6973,057 B1).

Johansson '752 discloses all the claimed limitations with the exception of being silent with respect to claimed features:

Regarding claim 3, a method, wherein the decision is based on an indication by the source or destination to optimize the route or to request for a specific quality of service for which route optimization is beneficial.

Regarding claim 4, a method wherein the decision is based on a service type of the traffic between the source and the destination.

Regarding claim 5, a method, wherein the decision to optimize the route is taken in case the service type indicates a service imposing delay Requirements.

Regarding claim 6, a method), wherein the service type indicates real-time traffic.

Regarding claim 7, a method wherein the decision is based on an estimated benefit from route optimization between the source and the terminal, and in case the estimated benefit exceeds a predetermined threshold value it is decided to reroute the route.

Regarding claim 8, a method, wherein the rerouting comprises the steps of informing one of the at least one first mobility agents of a current care_of_address of the destination.

However, Forslow '057 from the same field of endeavor discloses the above claimed features:

Regarding claim 3, Forslow discloses a method ("mobile node data access", recited in abstract, lines 1-10), wherein the decision ("selective routing and optimal routing", recited in col. 5, lines 50-64) is based on an indication by the source (fig. 1, Mobile Node 14, recited in col. 7, lines 28-33) or destination (fig. 1, Mobile Node 14, recited in col. 7, lines 28-33) to optimize the route ("optimal routing based on particular quality of service", recited in col. 5, lines 50-64 and "bypassing of IP data packet routing mechanism", recited in col. 9, lines 34-41) ("configure tunnel in accordance with a quality of service parameters", recited in col. 3, lines 58-64) or to request for a specific quality of for which route optimization is beneficial ("optimal routing based on particular quality of service", recited in col. 5, lines 50-64 and "bypassing of IP data packet routing mechanism", recited in col. 9, lines 34-41).

Regarding claim 4, a method ("mobile node data access", recited in abstract, lines 1-10) wherein the decision is based on a service type of the traffic ("quality /class of service to be taken into account in mobile IP/Internet communications", recited in col. 15, lines 52-61) between the source (fig. 1, Mobile Node 14, recited in col. 7, lines 28-33) and the destination (fig. 1, Corresponding Node 28, recited in col. 7, lines 58-65).

Regarding claim 5, a method ("mobile node data access", recited in abstract, lines 1-10), wherein the decision to optimize the route is taken in case the service type ("service level corresponding to the mobile user request", recited in col. 16, lines 3-14) indicates a service imposing delay Requirements ("requires low delay", recited in col. 15-16, lines 63-67 and lines 1-2).

Regarding claim 6, a method ("mobile node data access", recited in abstract, lines 1-10), wherein the service type ("traffic type", recited in col. 15, lines 63) indicates real-time traffic ("Voice –Over-IP", recited in col. 15, lines 59-67 and col. 16, lines 1-2).

Regarding claim 7, a method ("mobile node data access", recited in abstract, lines 1-10), wherein the decision ("selective routing and optimal routing", recited in col. 5, lines 50-64) is based on an estimated benefit from route optimization between the source (fig. 1, Mobile Node 14, recited in col. 7, lines 28-33) and the terminal (fig. 1, Corresponding Node 28, recited in col. 7, lines 58-65), and in case the estimated benefit ("coloring to provide quality of service and defined of admin values with respect to bandwidth", recited in col. 16, lines 46-56) exceeds a predetermined threshold value ("high traffic that is more than one label-switched path", recited in col. 17, lines 4-9), it is decided to reroute ("bypassing of IP data packet routing mechanism", recited in col. 9, lines 34-41) the route ("load balancing between label-switched paths to avoid congestion and routes through secondary paths", recited in col. 17, lines 9-30).

Regarding claim 8, a method ("mobile node data access", recited in abstract, lines 1-10), wherein the rerouting comprises the steps of informing one of the at least one first mobility agents (fig. 1, Foreign Agent Router, recited in col. 8, lines 32-44) of a

current care_of_address of the destination ("received care-of-address of mobile node, recited in col. 8, lines 32-59).

In view of the above, having the route optimization technique for mobile IP of Johansson '752 and the method fro providing mobility management services of Forslow '057, it would have been obvious to one of ordinary skill in the art at the time the invention was to modify the features of Johansson '752 by using features as taught by Forslow '057 in order to provide routing efficiency and routing redundancy as suggested in col. 19, lines 41-57 for motivation.

Regarding claims 13-18, please see the Examiner comments with respect to claims 3-8 as discussed above.

10. **Claims 3-4,6, and 8-10, 13-14, 16, and 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson et al (US 2002/0080752 A1) in view of Karagiannis et al (US 2002/0015395 A1).

Johansson discloses all the subject matter of the claimed invention with the exception of being silent with regard to the following features:

Regarding claim 3, a method, wherein the decision is based on an indication by the source or destination to optimize the route or to request for a specific quality of service for which route optimization is beneficial.

Regarding claim 4, a method, wherein the decision is based on a service type of the traffic between the source and the destination.

Regarding claim 6, a method, wherein the service type indicates real-time traffic.

Regarding claim 8, a method, wherein the rerouting comprises the steps of informing one of the at least one first mobility agents of a current care_of_address of the destination.

Regarding claim 9, a method, wherein the informing comprises the steps of sending a message from one of the consecutively arranged second mobility agents to one of the first mobility agents including the current care_of_address of the destination.

Regarding claim 10, a method, wherein the indication triggering the deciding for the route optimization is included in a source reservation signaling.

However, Karagiannis '395 from the same field of endeavor discloses the above claimed features:

Regarding claim 3, a method ("real-time packet session using RSVP", recited in abstract, lines 1-11), wherein the decision ("direct routing between the corresponding host and the mobile node after binding update message", recited in paragraph 0045, lines 1-12) is based on an indication by the source (fig. 3, Mobile Node 102, recited in paragraph 0040, lines 1-9) or destination (fig. 3, Corresponding Host 108, recited in paragraph 0040, lines 1-9) to optimize the route (fig. 6, route optimization, recited in paragraph 0067, lines 1-13) or to request (RSVP RESV 310 request, recited in paragraph) for a specific quality of service (path established upon QoS requirements, recited in paragraph 0066, lines 1-11) for which route optimization is beneficial ("avoiding triangular routing", recited in paragraph 0066, lines 1-11).

Regarding claim 4, a method ("real-time packet session using RSVP", recited in abstract, lines 1-11), wherein the decision ("direct routing between the corresponding host and the mobile node after binding update message", recited in paragraph 0045, lines 1-12) is based on a service type of the traffic ("quality of service requirement", recited in paragraph, 0043, lines 1-12) between the source (fig. 3, Mobile Node 102, recited in paragraph 0040, lines 1-9) and the destination (fig. 3, Mobile Node 102, recited in paragraph 0040, lines 1-9).

Regarding claim 6, a method ("real-time packet session using RSVP", recited in abstract, lines 1-11) , wherein the service type ("quality of service requirement", recited in paragraph, 0043, lines 1-12) indicates real-time traffic ("real-time packet optimization routing", recited in paragraph 0067-0068).

Regarding claim 8, a method ("real-time packet session using RSVP", recited in abstract, lines 1-11), wherein the rerouting ("bypassing of the home agent of the mobile node", recited in paragraph 0063, lines 1-21) comprises the steps of informing one of the at least one first mobility agents ("sending binding update message to the corresponding host by the home agent", recited in paragraph 0063, lines 1-21) of a current care_of_address of the destination ("care-of- address of the mobile node, recited in paragraph 0063, lines 1-21).

Regarding claim 9, a method ("real-time packet session using RSVP", recited in abstract, lines 1-11), wherein the informing comprises the steps of sending a message ("binding update message sent by the Home Agent in response to binding request from the Foreign Agent", recited in paragraph 0029, lines 1-9) from one of the consecutively

arranged second mobility agents (fig. 3, Home Agent 106) to one of the first mobility agents (fig. 3, Foreign Agent 104) including the current care_of_address of the destination ("care-of-address of the mobile node", recited in paragraph 0029, lines 1-9).

Regarding claim 10, a method ("real-time packet session using RSVP", recited in abstract, lines 1-11), wherein the indication ("receiving binding request", recited in paragraph 0028, lines 1-10) triggering the deciding for the route optimization ("route-optimization using binding request and update message, recited in paragraph 0029, lines 1-9) is included in a source reservation signaling ("path message and reservation request", recited in paragraph 0029, lines 1-9 and "RSVP message path", recited in paragraph 0042, lines 5-13 and "RRSVP RESV", recited in paragraph 0057).

In view of the above, having the route optimization technique for mobile IP of Johansson '752, the method and system for providing route optimization using RSVP of Karagiannis '395, it would have been obvious to one of ordinary skill in the art at the time the invention was to modify the features of Johansson '752 by using features as taught by Karagiannis '395 in order to provide routing efficiency with respect to real-time packet data optimization through RSVP as suggested in paragraph 0026, lines 2-20 for motivation.

Regarding claims 13-14, 16, and 18-20 please see the examiner comments with respect to claims 3-4,6, and 8-10 as discussed above.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gwon et al (US 2003/0016655 A1), Leung et al (US 7,227,863 B1), and Crosbie et al (US 7,260,638 B2) are cited to show methods and system related to the claimed invention.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CANDAL ELPENORD whose telephone number is (571)270-3123. The examiner can normally be reached on Monday through Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Bin Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Candal Elpenord/
Examiner, Art Unit 2616

/Kwang B. Yao/

Supervisory Patent Examiner, Art Unit 2616